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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,263	02/12/2004	Kazuo Aoki	JP9-2002-0244US1 (466)	5410
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AKERMAN SENTERFITT P. O. BOX 3188 WEST PALM BEACH, FL 33402-3188			EXAMINER SIEDLER, DOROTHY S	
			ART UNIT	PAPER NUMBER
			2626	
			MAIL DATE	DELIVERY MODE
			06/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/777,263

**Applicant(s)**

AOKI ET AL.

**Examiner**

Dorothy Sarah Siedler

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2-12-04</u> .   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

This is the initial response to the application filed February 12, 2004. Claims 1-16 are pending and are considered below.

#### ***Drawings***

Figures 11 and 12 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 13-16 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 13 and 15 recite "A program for controlling a computer to perform a morphological analysis", however this is thus non-statutory. Functional descriptive material must be recorded on a computer-readable medium, which creates a structural

and functional interrelationship, enabling the realization of the descriptive material through the use of technology. The program claimed in claims 13 and 15 is functional descriptive material per se, therefore claims 13 and 15, as well as all dependent claims, are non-statutory.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,2,4,7-11,13,14 are rejected under 35 U.S.C. 102(b) as being anticipated by ***Yokogawa*** (5,225,981).

As per claims 1,7,10 and 13 ***Yokogawa*** discloses a morphological analyzer for performing a morphological analysis on a natural language text to be processed, comprising: a dictionary unit storing header words and attribute information of the header words (column 12 lines 23-37, *a word dictionary stores grammatical information for each entry word, including inflectional information, as well as a highest preference flag*); a token list generating unit for referencing data in said dictionary unit, extracting tokens that can form the natural language text from said natural language text to be processed, and registering them on a token list (column 10 lines 44-55, *a morphological analysis section dives the sentence by referring to the word dictionary*); and a token

string selecting unit for selecting optimum token strings for composing said natural language text on the basis of the token list generated by said token list generating unit, wherein said token list generating unit controls the registration of the tokens on said token list on the basis of conditions imposed on the morphological analysis and said attribute information of the header words corresponding to said extracted tokens (column 10 line 67 – column 11 line 5 and column 13 lines 34-37, *after the morphological analysis, the input data and the dictionary information are sent to the parsing section I and then II, where structure is applied to the data to determine a solution, or a parse tree. Dictionary information for individual words that compose a compound word are discarded if the words are judged to have a high coupling, based on the highest preference flag*).

As per claims 2 and 11, **Yokogawa** discloses the morphological analyzer according to claims 1,10, wherein said token list generating unit registers, on said token list, only the tokens having attributes matching said conditions imposed on the morphological analysis on the basis of the attribute information of said header words corresponding to said tokens (column 13 lines 34-37, *dictionary information for individual words that compose a compound word are discarded if the words are judged to have a high coupling, based on the highest preference flag*).

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As per claims 4,9 and 14, **Yokogawa** discloses the morphological analyzer according to claims 1,7 and 13, wherein the attribute information of said header words stored in said dictionary unit is recorded with the flag data having a number of bits corresponding to the number of attribute information, and said token list generating unit decides whether or not to register said tokens on said token list on the basis of the value of said flag data for said header words corresponding to said tokens (column 12 lines 23-37 and column 13 lines 34-37, *the word dictionary contains an entry for a highest preference flag, which uses a '1' or '0' to indicate weak or strong coupling*).

As per claim 8, **Yokogawa** discloses the natural language processor according to claim 7, wherein said dictionary unit stores the information indicating whether or not said header words are decomposable as the attribute information of said header words, said token list generating unit references the attribute information of said header words, and registers tokens corresponding to undecomposable header words on said token list, when it is requested by said application execution means to decompose decomposable words for making the morphological analysis (column 12 lines 23-37 and column 13 lines 34-37, *the word dictionary contains an entry for a highest preference flag, which uses a '1' or '0' to indicate weak or strong coupling (decomposable). Also, if a strong coupling does not exist between possible compound words or phrases, individual words are considered (indecomposable words)*).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5,6,12,15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over ***Yokogawa***.

As per claim 3, ***Yokogawa*** discloses the morphological analyzer according to claim 1, wherein said dictionary unit stores the information indicating whether or not said header words are decomposable as the attribute information of said header words, said token list generating unit references the attribute information of said header words, and registers the extracted tokens on said token list (column 12 lines 23-37 and column 13 lines 34-37, *the word dictionary contains an entry for a highest preference flag, which uses a '1' or '0' to indicate weak or strong coupling (decomposable). Also, if a strong coupling does not exist between possible compound words or phrases, individual words are considered (undecomposable words)*). ***Yokogawa*** does not explicitly state registering tokens except tokens corresponding to decomposable header words from said extracted tokens, when a condition of decomposing the complex word for making the morphological analysis is imposed. However, ***Yokogawa*** does disclose considering individual words when possible compound words or phrases do not have a strong coupling (column 13 lines 34-47). In ***Yokogawa***, a morphological analysis is performed

on input text, and a weak or strong coupling between constituent words of compound words or phrases is determined. Using this information, a possible parse tree is determined then used for machine translation. Individual words that are constituents of determined compound words or phrases are not considered, thus reducing the processing.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to register tokens except tokens corresponding to decomposable header words from said extracted tokens, when a condition of decomposing the complex word for making the morphological analysis is imposed in **Yokogawa**, since it would enable the system to discard words or phrases with weak coupling, i.e. words or phrases that are not likely to be correct compound words or phrases, thus reducing system processing and data storage.

As per claims 5, 12 and 15, **Yokogawa** discloses a morphological analyzer for performing a morphological analysis on a natural language text to be processed, comprising: token list generation means for decomposing said natural language text to be processed into tokens that are components of the natural language text and registering them on a token list (column 10 lines 44-55, *a morphological analysis section divides the sentence by referring to the word dictionary*) and token string selection means for selecting optimum token strings for composing said natural language text on the basis of the token list generated by said token list generation means (column 10 line 67 – column 11 line 5 and column 13 lines 34-37, *after the morphological analysis, the*



*input data and the dictionary information are sent to the parsing section I and then II, where structure is applied to the data to determine a solution, or a parse tree. Dictionary information for individual words that compose a compound word are discarded if the words are judged to have a high coupling, based on the highest preference flag).*

**Yokogawa** does not explicitly disclose registering tokens except tokens decomposable into smaller tokens. However, **Yokogawa** does disclose considering individual words when possible compound words or phrases do not have a strong coupling (column 13 lines 34-47). In **Yokogawa**, a morphological analysis is performed on input text, and a weak or strong coupling between constituent words of compound words or phrases is determined. Using this information, a possible parse tree is determined then used for machine translation. Individual words that are constituents of determined compound words or phrases are not considered, thus reducing the processing.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to register tokens except tokens corresponding to decomposable header words from said extracted tokens in **Yokogawa**, since it would enable the system to discard words or phrases with weak coupling, i.e. words or phrases that are not likely to be correct compound words or phrases, thus reducing system processing and data storage.

As per claim 6, **Yokogawa** discloses the morphological analyzer according to claim 5, however **Yokogawa** does not explicitly disclose wherein said token list generation means selectively controls whether or not tokens decomposable into smaller tokens are

excluded from tokens registered on said token list in accordance with the given conditions imposed on the morphological analysis. However, **Yokogawa** does disclose considering individual words when possible compound words or phrases do not have a strong coupling (column 13 lines 34-47). In **Yokogawa**, a morphological analysis is performed on input text, and a weak or strong coupling between constituent words of compound words or phrases is determined. Using this information, a possible parse tree is determined then used for machine translation. Individual words that are constituents of determined compound words or phrases are not considered, thus reducing the processing.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to selectively control whether or not tokens decomposable into smaller tokens are excluded from tokens registered on said token list in accordance with conditions composed on the morphological analysis in **Yokogawa**, since it would enable the system to discard words or phrases with weak coupling, i.e. words or phrases that are not likely to be correct compound words or phrases, thus reducing system processing and data storage.

As per claim 16, **Yokogawa** discloses the program according to claim 15, wherein said program causes said computer to execute a process of judging the given conditions imposed on the morphological analysis, and a process of registering all said tokens on said token list in accordance with said given conditions, instead of said second process (column 13 lines 34-37, *dictionary information for individual words that compose a*

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*compound word are discarded if the words are judged to have a high coupling, based on the highest preference flag).*

### **Conclusion**

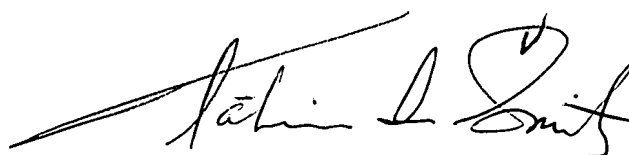
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please see the PTO-892 form.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dorothy Sarah Siedler whose telephone number is 571-270-1067. The examiner can normally be reached on Mon-Thur 9:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on 571-272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DSS



TĀIVALDIS IVARS ŠMITS  
PRIMARY EXAMINER